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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,486	10/13/2000	Raja P. Narayanan	11462RRUS02U	9380

7590

03/18/2004

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EXAMINER

PHAN, MAN U

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 03/18/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/687,486

Applicant(s)

NARAYANAN ET AL.

Examiner

Man Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The application of Narayanan et al. for a "Mobile IP extension rationalization (MIER)" filed 10/13/2000 has been examined. This application claims benefit from Provisional Application 60/159,407 dated 10/14/1999. Claims 1-20 are pending in the application.

#### ***Claim Rejections - 35 USC ' 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergenwall et al. (US#6,567,664) in view of Feldman et al. (US#6,055,561).

With respect to claims 1-8 and 17-20, Bergenwall et al. (US#6,567,664) discloses a novel method and system for assigning an IP address to a mobile node during registration according to the essential features of the claims. Bergenwall provides in Figs. 1 & 2 block diagrams illustrated an IP network architecture supporting mobile connections, comprising a mobile communication device 1, a home agent 4 of the home network 5 of the mobile node 1, a foreign agent 3 which is a router on the foreign network. As a result of the mobile node's registration, the home agent 4, which is a router on the mobile node's home network 5, encapsulates data packets addressed to the mobile node's home network address in an IP tunnel directed to the care-of address provided by the mobile node. The foreign agent 3 receives the encapsulated IP packets, and forwards them to the mobile node 1. Furthermore, it should be noted that the mobile node 1 uses its individual home address as the source address of all IP data packets that it sends, even when on the foreign network (Col. 1, line 44 to Col. 2, lines 46). Bergenwall further teaches in Fig3 a known format of the mobile IP registration request sent from the mobile node 1 to the foreign agent 3 or home agent 4. Fig. 4 illustrated the mobile IP extensions format encoded in a Type-Length-Value format which includes the type field for indicating the particular type of extension, the length field for indicating the length in

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bytes of the data field within the extension, and the data field for indicating the particular data associated with the extension. The Extension mechanism allows optional information to be carried by mobile IP control message or by Internet Control Message Protocol (ICMP) Router Discover Messages. Extensions allow variable amounts of information to be carried within each data packet. RFC 2002 defines two types of extensions. The first type of extension for Mobile IP can only appear in Mobile IP control messages, that is, to and from a UDP port. These extensions are Mobile-Home Authentication Extensions, Mobile-Foreign Authentication Extensions and Foreign-Home Authentication Extensions. Mobile-Home Authentication Extensions are utilized to authenticate registration requests. For example, when a mobile node includes a Mobile-Home Authentication Extension in the registration requests sent therefrom, the home agent is thus able to verify the integrity of the request. The second type of extensions can appear only in ICMP Router Discovery messages and are One-byte Padding Extensions, Mobility Agent Advertisement Extensions and Prefix-Length Extensions (Col. 3, lines 44 plus).

However, Bergenwall et al. does not explicitly disclose a sub-type field identifying a member of the collection of extensions identified by the type field. In the same field of endeavor, Feldman et al. (US#6,055,561) teaches the extensions format for use in a registration request/acknowledge messages includes sub-type of the object field (Col. 20, lines 4 plus).

With respect to claims 9-16, they are method claims corresponding to the apparatus and system claims 1-8 and 17-20 as discussed in paragraph 4 above.

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Therefore, claims 9-16 are analyzed and rejected as previously discussed with respect to claims 1-8 and 17-20

One skilled in the art would have recognized the need for effectively and efficiently in supporting mobile internet protocol using multiple separate tunneling, and would have applied Feldman's teaching of the extension format structures for use in a registration request/acknowledgement messages into Bergenwall's novel use of the extension attached to the registration request sent from the mobile node to the foreign agent. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Feldman's mapping of routing traffic to switching networks into Bergenwall's registration for mobile nodes in wireless internet protocols with the motivation being to provide a method and system for the extensions structure format in mobile IP control message.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Leung (US#6,501,746) is cited to show the mobile IP dynamic home address resolution.

The Khalil et al. (US#6,578,085) is cited to show the system and method for route optimization in a wireless internet protocol network.

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The Khalil et al. (US#6,430,698) is cited to show the virtual distributed home agent protocol.

The Chuah (US#6,654,808) is cited to show the providing QoS in layer 2 tunneling protocol networks.

The Leung (US#6,636,498) is cited to show the mobile IP mobile router.

The Leung (US#6,621,810) is cited to show the mobile IP intra-agent mobility.

The Leung et al. (US#6,466,964) is cited to show the methods and apparatus for providing mobility of a node that does not support mobility

The Yuan (US#5,496,704) is cited to show the systems and methods for internetworking data networks having mobility management functions.

The Mousseau et al. (US#6,687,251) is cited to show the method and apparatus for distributed MTP level 2 architecture.

The Comstock (US#6,452,920) is cited to show the mobile terminating L2TP using mobile IP data.

The Beser et al. (US#6,523,068) is cited to show the method for encapsulating and transmitting a message includes private and forwarding network addresses with payload to an end of a tunneling association.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (703)305-1029. The examiner can normally be reached on Mon - Fri from 6:30 to 3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 305-9051, (for formal communications intended for entry)

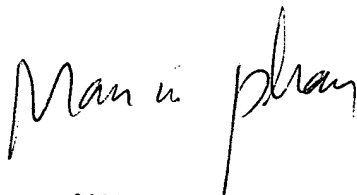
Or: (703) 305-3988 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Mphan

03/16/2004.

A handwritten signature in cursive script that reads "Man u phan".

MAN PHAN  
PATENT EXAMINER